UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.　　　: 7,119,903 B1
APPLICATION NO. : 10/692704
DATED　　　　　 : October 10, 2006
INVENTOR(S)　　 : Brian B. Jones

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

IN THE SPECIFICATION:

Column 6, Line 55: remove "(i.e.," after "integrand"

Column 10, line 20, replace: "$\rho_{spec}^2 = \rho_0^2 - 2\rho_0 z_0 \cos\psi_0 \tan\theta_{spec} + z_0^2 \tan^2\theta_{spec}$."
with: --$\rho_{spec}^2 = \rho_0^2 - 2\rho_0 z_0 \cos\psi_0 \tan\theta_{spec} + z_0^2 \tan^2\theta_{spec}$.--

Column 10, line 22, replace: "$0 \leq r \leqq R$" with --$0 < r \leq R$--

Column 10, line 23, replace: "$0 < \phi \leqq 2\pi$." with --$0 < \phi \leq 2\pi$.--

Column 10, line 49, replace: "$\rho^2 = \rho_{spec}^2 + r^2 + \rho_{spec}\, r \cos\psi_{spec} \cos\phi + \rho_{spec} \sin\psi_{spec}\, r \sin\phi$."

with: --$\rho^2 = \rho_{spec}^2 + r^2 + \rho_{spec}\, r \cos\psi_{spec} \cos\phi + \rho_{spec} \sin\psi_{spec}\, r \sin\phi$.--

Column 10, line 52, replace: "$\rho \leqq R$" with --$\rho \leq R$--

Column 10, line 55, replace: "$\dfrac{R^2 - \rho_{spec}^2 - r^2}{\rho_{spec}^r} \geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$."

with: --$\dfrac{R^2 - \rho_{spec}^2 - r^2}{\rho_{spec}\, r} \geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$.--

Column 10, line 59, delete equation: "$\geqq \cos\psi_{spec}\cos\phi + \sin\psi_{spec} \sin\phi$."

Column 11, line 5, replace: "$\dfrac{R^2 - \rho_{spec}^2 - r^2}{\rho_{spec}^r} \geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$."

with: --$\dfrac{R^2 - \rho_{spec}^2 - r^2}{\rho_{spec}\, r} \geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$.--

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Column 11, line 10, delete equation: "$\geqq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi.$"

Column 12, line 7, replace: "$\beta'^2 = \dfrac{z_0^2}{z_0^2 + r^2} - \dfrac{2z_0 \sin\theta_0}{\sqrt{z_0^2 + r^2}} + \sin^2\theta_0$"

with: -- $\beta'^2 = \dfrac{z_0^2}{z_0^2 + r^2} - \dfrac{2z_0 \sin\theta_0}{\sqrt{z_0^2 + r^2}} + \sin^2\theta_0$ --

Column 12, line 20, replace:

"$\dfrac{d\beta'}{dr} = \left(\dfrac{z_0^2}{z_0^2 + r^2} - \dfrac{2_{z_0} \sin\theta_0}{\sqrt{r^2 + z_0^2}} + \sin^2\theta_0 \right)^{-\frac{1}{2}} \left(\dfrac{z_0^2}{\left(z_0^2 + r^2\right)} - \dfrac{z_0 r \sin\theta_0}{\left(z_0^2 + r^2\right)^{(3/2)}} \right)$"

with: -- $\dfrac{d\beta'}{dr} = \left(\dfrac{z_0^2}{z_0^2 + r^2} - \dfrac{2_{z_0} \sin\theta_0}{\sqrt{r^2 + z_0^2}} + \sin^2\theta_0 \right)^{-\frac{1}{2}} \left(\dfrac{z_0^2}{\left(z_0^2 + r^2\right)} - \dfrac{z_0 r \sin\theta_0}{\left(z_0^2 + r^2\right)^{(3/2)}} \right)$ --

Column 12, line 37, replace: "$\dfrac{dp}{d\Omega} = \dfrac{1}{I_s l(r)r} \left(\dfrac{d\beta'}{dr} \right) \dfrac{dBRDF}{d\beta'} \cdot$"

with: -- $\dfrac{dp}{d\Omega} = \dfrac{1}{I_s \ell(r)r} \left(\dfrac{d\beta'}{dr} \right) \dfrac{dBRDF}{d\beta'} \cdot$ --

Column 13, line 63, replace: "$BRDF = \int_{D^\cdot} \dfrac{dp\left(|\beta - \beta_0|\right)}{d\Omega} \sqrt{k_1} \left| \dfrac{\partial(\theta,\phi)}{\partial(k_1 k_2)} \right| dk_1 dk_k \cdot$"

with: -- $BRDF = \int_{D^\cdot} \dfrac{dp\left(|\beta - \beta_0|\right)}{d\Omega} \sqrt{k_1} \left| \dfrac{\partial(\theta,\phi)}{\partial(k_1 k_2)} \right| dk_1 dk_2 \cdot$ --

Column 15, line 3, replace: "$\dfrac{\partial\phi}{\partial k_1},$" with: -- $\dfrac{\partial\phi}{\partial k_2},$ --

Column 15, lines 32-33,
replace: "$\cos^{-1}(\sin\theta_1 \cos\phi_1 \sin\theta_2 \cos\phi_2 + \sin\theta_1 \sin\phi_1 \sin\theta_2 \sin\phi_2 + \cos\theta_1 \cos\theta_2) \leqq \alpha$"

with: -- $\cos^{-1}(\sin\theta_1 \cos\phi_1 \sin\theta_2 \cos\phi_2 + \sin\theta_1 \sin\phi_1 \sin\theta_2 \sin\phi_2 + \cos\theta_1 \cos\theta_2) \leqq \alpha$ --

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Column 16, line 37, replace: "l(r)" with --ℓ(r)--

Column 16, line 45, replace: "$\geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$, and"

with: --$\geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$, and--

Column 16, line 50, replace: "$\dfrac{dp}{d\Omega} = \dfrac{1}{I_s l(r)r}\left(\dfrac{d\beta'}{dr}\right)\dfrac{dBRDF}{d\beta'}$. "

with: -- $\dfrac{dp}{d\Omega} = \dfrac{1}{I_s \ell(r)r}\left(\dfrac{d\beta'}{dr}\right)\dfrac{dBRDF}{d\beta'}$. --

Column 17, line 19, delete: "; and"

Column 17, line 20, replace: "$\rho_{spec}^2 = \rho_0^2 - 2\rho_0 z_0 \cos\psi_0 \tan\theta_{spec} + z_0^2 \tan^2 \theta_{spec}$"
with: --$\rho_{spec}^2 = \rho_0^2 - 2\rho_0 z_0 \cos\psi_0 \tan\theta_{spec} + z_0^2 \tan^2 \theta_{spec}$--

Column 17, line 22, add: --; and-- before "(c)".

Column 17, line 30,
replace: "$\cos^{-1} (\sin\theta_1 \cos\phi_1 \sin\theta_2 \cos\phi_2 + \sin\theta_1 \sin\phi_1 \sin\theta_2 \sin\phi_2 + \cos\theta_1 \cos\theta_2) \leq \alpha$"
with: --$\cos^{-1} (\sin\theta_1 \cos\phi_1 \sin\theta_2 \cos\phi_2 + \sin\theta_1 \sin\phi_1 \sin\theta_2 \sin\phi_2 + \cos\theta_1 \cos\theta_2) \leq \alpha$--

IN THE CLAIMS:

Column 21, line 15, replace:

"$BRDF = \dfrac{1}{P_i}\dfrac{1}{\Omega_i}\int_{\Omega i}\int_{Area}\int_{\Omega d}\dfrac{d^2 P_i}{d\Omega_i dA}\dfrac{dp_d(\Omega_i,\Omega_d,A)}{d\Omega_d}d\Omega_i dA d\Omega_d$,"

with: --$BRDF = \dfrac{1}{P_i}\dfrac{1}{\Omega_i}\int_{\Omega i}\int_{Area}\int_{\Omega d}\dfrac{d^2 P_i}{d\Omega_i dA}\dfrac{dp_d(\Omega_i,\Omega_d,A)}{d\Omega_d}d\Omega_i dA d\Omega_d$, --

Column 21, line 29, replace "P_i is incident power of the electromagnetic radiation."
with -- P_i is the incident power of the electromagnetic radiation.--

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Column 21, line 58, remove: "for" after "$|\beta - \beta_0| = \theta_i + \theta_d$".
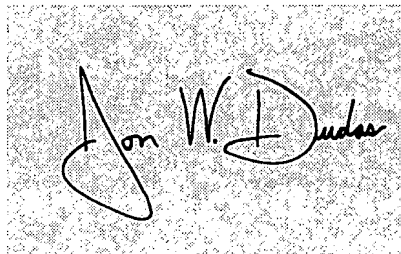
Column 21, line 59, add: --for-- before "being".

Column 21, line 65, replace: "$\text{BRDF} = \int_D \cdot \dfrac{dp\left(|\beta - \beta_0|\right)}{d\Omega}\sqrt{k_1}\left|\dfrac{\partial(\theta,\phi)}{\partial(k_1 k_2)}\right| dk_1 dk_2 ,$"

with: --$\text{BRDF} = \int_D \cdot \dfrac{dp\left(|\beta - \beta_0|\right)}{d\Omega}\sqrt{k_1}\left|\dfrac{\partial(\theta,\phi)}{\partial(k_1,k_2)}\right| dk_1 dk_2 ,$--

This certificate supersedes Certificate of Correction issued September 25, 2007.

Signed and Sealed this

Twentieth Day of November, 2007

JON W. DUDAS
Director of the United States Patent and Trademark Office